

BC817-40 NPN Transistor - Summary Datasheet

The BC817-40 is an NPN general-purpose transistor designed for switching and amplification applications. It is widely used in signal processing, low-power amplifiers, and driver circuits.

Features	
Type	NPN Bipolar Junction Transistor
Package	SOT-23
High DC current gain	Up to 630 (typical)
Collector current (Ic)	500 mA continuous
Low saturation voltage	Vce(sat) = 0.7V max at Ic = 500mA
Maximum collector-emitter voltage (Vceo)	45 V
Maximum collector-base voltage (Vcbo)	50 V
Maximum emitter-base voltage (Vebo)	5 V

Absolute Maximum Ratings	
Collector–Emitter Voltage (Vceo)	45 V
Collector–Base Voltage (Vcbo)	50 V
Emitter–Base Voltage (Vebo)	5 V
Collector Current (Ic)	500 mA
Total Power Dissipation (Ptot)	250 mW (at Tamb = 25°C)
Junction Temperature (Tj)	150 °C max
Storage Temperature (Tstg)	-65 °C to +150 °C

Typical Electrical Characteristics (at 25°C)	
DC Current Gain (hFE)	100 to 630 (Vce = 5V, Ic = 2mA)
Base-Emitter Saturation Voltage (Vbe(sat))	≤ 1.2 V (Ic = 500mA, Ib = 50mA)
Collector-Emitter Saturation Voltage (Vce(sat))	≤ 0.7 V (Ic = 500mA, Ib = 50mA)
Transition Frequency (fT)	100 MHz (typical)

Pin Configuration (SOT-23):

- 1. Base (B)
- 2. Emitter (E)
- 3. Collector (C)

Note: This is a summary datasheet prepared for reference purposes. For complete specifications and test conditions, please refer to the official manufacturer datasheet (e.g., ON Semiconductor, Nexperia, Diodes Inc.).